

## WHAT IS CLAIMED IS:

5 1. A polypeptide comprising from 2 to 12 zinc finger-nucleotide binding peptides at least one of which peptides contains a nucleotide binding region having the sequence of any of SEQ ID NO: 7-70 and 107-112.

2. The polypeptide of claim 1 containing from 2 to 6 zinc finger-nucleotide binding peptides.

10 3. The polypeptide of claim 1 wherein each of the peptides binds to a different target nucleotide sequence.

15 4. The polypeptide of claim 2 that binds to a nucleotide that contains the sequence 5'-(ANN)<sub>n</sub>-3', wherein each N is A, C, G, or T and where n is 2 to 6.

20 5. The polypeptide of claim 1 further operatively linked to one or more transcription regulating factors.

6. The polypeptide of claim 1 wherein each of the peptides contains a nucleotide binding region having the sequence of any of SEQ ID NO: 46-70.

7. The polypeptide of claim 1 wherein each of the peptides contains a nucleotide binding region having the sequence of any of SEQ ID NO: 7-45.

25 8. The polypeptide of claim 1 wherein each of the peptides contains a nucleotide binding region having the sequence of any of SEQ ID NO:10, 11, 17, 19, 21, 23-30, 32, 34-36, 42, 43 or 45.

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9. An isolated and purified polynucleotide that encodes the polypeptide of claim 1.
  10. An expression vector containing the polynucleotide of claim 6.
  11. A process of regulating expression of a nucleotide sequence that contains the sequence  $(5'\text{-ANN})_n\text{-3'}$ , where n is an integer from 2 to 12, the process comprising exposing the nucleotide sequence to an effective amount of the polypeptide of claim 1.
  12. The process of claim 10 wherein the sequence  $5'\text{-(ANN)}_n\text{-3'}$  is located in the transcribed region of the nucleotide sequence.
  13. The process of claim 10 wherein the sequence  $5'\text{-(ANN)}_n\text{-3'}$  is located in a promotor region of the nucleotide sequence.
  14. The process of claim 10 wherein the sequence  $5'\text{-(ANN)}_n\text{-3'}$  is located within an expressed sequence tag.
  15. The process of claim 10 wherein the polypeptide is operatively linked to one or more transcription regulating factors.